

COMPOSITE MATERIAL COLLATION MACHINE AND ASSOCIATED  
METHOD FOR HIGH RATE COLLATION OF COMPOSITE MATERIALS

ABSTRACT OF THE DISCLOSURE

5           A composite material collation machine and associated method for fiber tape  
placement and consolidation at a relatively high rate are provided. The composite  
material collation machine includes a laser diode array for heating at least one fiber  
tape, a compaction device for pressing the fiber tape against a workpiece, an  
inspection system for monitoring the fiber tape, and a controller. The inspection  
10       system produces an output representative of at least one characteristic of the fiber  
tape, and the controller is capable of receiving the output and, based on the output,  
automatically altering at least one system parameter defining an operational  
characteristic of the composite material collation machine.

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